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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/857,638	09/13/2001	Christian Kirsten	H3544PCT/US	6355
423	7590	03/01/2004	EXAMINER	
HENKEL CORPORATION THE TRIAD, SUITE 200 2200 RENAISSANCE BLVD. GULPH MILLS, PA 19406			WYROZEBSKI LEE, KATARZYNA I	
			ART UNIT	PAPER NUMBER
			1714	
DATE MAILED: 03/01/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/857,638

Applicant(s)

KIRSTEN ET AL.

Examiner

Katarzyna Wyrozebski Lee

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 12, 13 and 16-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12, 13 and 16-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 0104.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

*Claim Objections*

1. Applicant's arguments with respect to term "coordinatively" are reconsidered and the objection is withdrawn.

*Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 12, 13, 16-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Since page 16 of the specification only discloses limitation of "further adhesives" and page 15 discloses that the magnetic particle can be treated with treating agents such as silanes, the scope of the claim is indefinite, since it is not clear as to what "further additives" the applicant is referring to.

Claim 1 comprises limitation of "superparamagnetic" without explanation as to what the applicant's really means by that. The specification also did not contain term "superparamagnetic" or at least the examiner was not able to find it. Depending on the applicant's answer to this rejection will influence further decision whether or not term "superparamagnetic" is a new matter or not.

*Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) For proper 102 (e) form paragraph, please refer to the attachment at the end of this office action.

5. Claims 12, 13, 16, 20-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Komagata (US 5,714,238).

The prior art of Komagata discloses conductive adhesive composition. According to the claims of the prior art of Komagata, the adhesive composition comprises epoxy resin, phenolic resin and conductive particles.

According to the claim 1 of Komagata, conductive particles include nickel and nickel-boron alloy. Nickel, satisfies the requirements of claim 14 of the present invention.

According to claim 2, the particle size of the conductive particles is 0.1-30 microns, which is equivalent to 100-30,000 nm.

Col. 5, lines 8-15 of Komagata discloses that the amount of the conductive particles is in a range of 30-45 %

The prior art of Komagata also discloses use of other additives such as surface treating agents (col. 3-4), dispersing aids or silane coupling agents (col. 7, lines 17-27).

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In a method of making the adhesive, the components are mixed together, which in turn implies that they have to be combined (col. 7, lines 28-35). The adhesive is then formulated onto a substrate and used to bind together electronic parts.

In the light of the above disclosure, the prior art of Komagata anticipates claims rejected above.

6. Claims 12-13, 16-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Czaplicki (US 5,985,435).

The prior art of Czaplicki discloses hot patch comprising rigid substrate and magnetic hot melt adhesive.

According to claims of the prior art of Czaplicki, the adhesive comprises 50-85% by weight of magnetic particles.

The particle size of the magnetic particles disclosed in the prior art of Czaplicki is 0.5-50 microns, which is equivalent to 500-50,000 nanometers (col. 4). The particles disclosed include ferrites such as barium ferrite, and strontium ferrite. In preferred embodiment, the magnetic particles are iron oxides.

Binder utilized in the examples of Czaplicki as well as claimed in the claims includes ethylene vinyl acetate binder ELVAX and acrylic binders.

Although the prior art of Czaplicki does not address the issue of bonding between the magnetic particle and polymer, such would be intrinsic or inherent property, in view of the fact

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that the polymer and magnetic particle of Czaplicki are also required by the claims of the present invention. Therefore the components overlap.

Claims of the prior art of Czaplicki also disclose additives such as antioxidants, coupling agents, colorants, curing agents, impact modifiers and e.t.c. (claim 15).

The prior art of Czaplicki also discloses tackifier as part of the composition. If the amount of the tackifier and binder was increased, then the composition of Czaplicki would inherently function as a pressure sensitive adhesive or a contact adhesive.

In a method of Czaplicki, the components are added together to a mixer and mixed until fully blended (col. 5, lines 55-60). The adhesive is then deposited onto the rigid backing by extrusion, to form a patch. The patch is then applied to an article.

In the light of the above disclosure, the prior art of Czaplicki anticipates claims rejected above.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 12, 21, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Czaplicki (US 5,985,435) in view of Thakur (US 5,240,626).

The discussion of the prior art of Czaplicki from paragraph 6 above is incorporated here by reference.

The difference between the present invention and the disclosure of the prior art of Czaplicki is the recitation of the smaller magnetic particles, which can be utilized in the adhesive composition.

With respect to the above disclosure, the prior art of Thakur discloses ferrofluid, which can be utilized in magnetic adhesive.

The ferrofluid comprises magnetic particles such as magnetite, which is also known as iron oxide having particle size of 2-30 nm. The examples also disclose ferric nitrate, ferric sulfate (Ex. 3, col. 6).

Magnetic particles, such as magnetite as it is taught in the prior art of Thakur is often dispersed in the solvent for further use in the adhesives.

In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to utilize particles of Thakur in the composition of Czaplicki and thereby obtain the claimed invention. The particles of Thakur, when incorporated in appropriate amounts into polymeric binder would still result in efficient hot melt magnetic adhesive. Especially since the prior art of Thakur teaches use of its ferrofluids in magnetic adhesive composition.

11. Claims 13, 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Czaplicki (US 5,985,435) in view of Kelley (US 4,176,054).

The discussion of the prior art of Czaplicki from paragraph 6 above is incorporated here by reference.

The difference between the present invention and the disclosure of the prior art of Czaplicki is the recitation of the amount of magnetic particles, which can be utilized in the adhesive composition.



With respect to the above disclosure, the prior art of Kelley discloses composition for hot melt adhesive comprising binder and magnetic particles.

Claim 4 of the prior art of Kelley discloses that the particle such as magnetite is added into the adhesive composition in an amount of 3-50% by weight.

The amount of the magnetic particles in an adhesive composition can be varied depends on the intended use. From the prior art disclosed in the office action it is clear that if the adhesive is to be utilized in automotive or electronic industry, larger amounts of the magnetic particles may be required. On the other hand, if the adhesive is utilized for bookbinding, such amount can be greatly reduces.

In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to utilize the amount of magnetic particles as disclosed in the prior art of Kelley and thereby obtain the claimed invention. The smaller amounts of the magnetic particles would still result in efficient hot melt adhesive.

12. Claim 16, 18-22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Czaplicki (US 5,985,435) in view of Sawai (US 4,254,201).

The discussion of the prior art of Czaplicki from paragraph 6 above is incorporated here by reference.

The difference between the present invention and the disclosure of the prior art of Czaplicki is the recitation that the polymer and magnetic particle can be utilized as pressure sensitive adhesive.

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With respect to the above difference, the prior art of Sawai discloses pressure sensitive adhesive composition. The composition comprises polymer and magnetic particles. The polymers in the pressure sensitive composition include tacky substances of acrylic type and vinyl type and include ethylene vinyl acetate copolymers.

The magnetic particles of the prior art of Sawai include iron oxide, nickel, cobalt, iron and e.t.c.

In examples of the prior art of Sawai, polymeric component were mixed with magnetic particles (ex. 9) so that the solid content is approximately 45% (by the way of example 8.

Pressure sensitive adhesive, can be formulated from acrylic and vinyl polymers with magnetic particles, which are the same components as those utilized for hot melt adhesive of the prior art of record. To form pressure sensitive adhesive it would be obvious to incorporate larger amounts of tacky substances and less filler.

In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art to utilize the composition of Czaplicki with the amounts altered as disclosed in the prior art of Sawai and thereby obtain the pressure sensitive adhesive. The components of the prior art of Czaplicki and Sawai both disclose acrylic and vinyl polymers in conjunction with tackifiers and magnetic particles, therefore both composition would give efficient pressure sensitive adhesive.

In the amendment filed on 1/16/2004 the applicants argued following:

- a) The iron oxide particles of Czaplicki are not para or superparamagnetic as required by the present invention.

With respect to the above argument and upon trying to understand the applicant's definition of paramagnetic particles the examiner disagrees. For one, prior art of Czaplicki does not only teach iron oxides. It also discloses ferrites. Second paramagnetism depends on the number of unpaired electrons in the metallic complex. Applicant's arguments although maybe valid for iron oxide, do not traverse ferrites of Czaplicki. Ferrites or compound containing iron are among those listed in the specification of the present invention.

b) Combination of Czaplicky and Thakur who discloses magnetite that is also ferromagnetic

With respect to the above argument, the prior art of Thakur was utilized to afford smaller particle size. However, magnetite is also listed in the applicant's specification.

c) The prior art of Kelly discloses paramagnetic particles, and it would not have been obvious to utilize them instead of ferromagnetic particles of Czaplicky.

With respect to the above argument, the only particles of Czaplicky that were traversed by the applicants were iron oxide. The examiner also indicated that the applicants have not addressed ferrites. In addition, the prior art of Kelly teaches magnetite. How can then magnetite of Thakur be ferromagnetic and magnetite of Kelly paramagnetic? (Magnetite is a version of iron oxide). Since all the particles seem to have the same properties substituting one for another would not change the properties of the composition.

d) The prior art of Sawai discloses only ferromagnetic compounds.

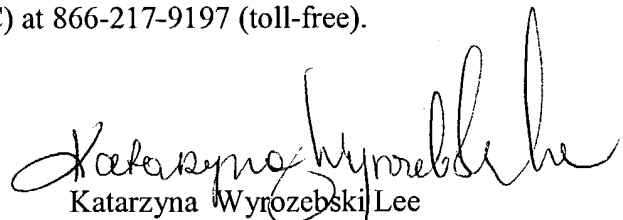
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The prior art of Sawai was utilized to provide for pressure sensitive adhesive recitation, which actually depends on its polymeric content more than it does on its magnetic particles.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katarzyna Wyrozebski Lee whose telephone number is (571) 272-1127. The examiner can normally be reached on Mon-Thurs 6:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Katarzyna Wyrozebski Lee  
Primary Examiner  
Art Unit 1714

kiwl  
February 6, 2004